



PCT10

REVIEW
AUGUST 2002

Entered on P. 4

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/088,920

DATE: 10/23/2002

TIME: 16:11:55

Input Set : A:\25835104.app

Output Set: N:\CRF4\10232002\J088920.raw

3 <110> APPLICANT: KIZAKI, NORIYUKI
 4 YASOHARA, YOSHIHIKO
 5 HASEGAWA, JUNZO
 7 <120> TITLE OF INVENTION: NOVEL CARBONYL REDUCTASE, GENE THEREFOR, AND METHOD OF USING
 THE SAME
 9 <130> FILE REFERENCE: 025835/0104
 11 <140> CURRENT APPLICATION NUMBER: 10/088,920
 12 <141> CURRENT FILING DATE: 2002-06-03
 14 <150> PRIOR APPLICATION NUMBER: PCT/JP01/06619
 15 <151> PRIOR FILING DATE: 2001-08-01
 17 <150> PRIOR APPLICATION NUMBER: JP 2000-232756
 18 <151> PRIOR FILING DATE: 2000-08-01
 20 <160> NUMBER OF SEQ ID NOS: 11
 21 <210> SEQ ID NO: 1
 23 <211> LENGTH: 277
 24 <212> TYPE: PRT
 25 <213> ORGANISM: Micrococcus luteus
 27 <400> SEQUENCE: 1
 28 Met Arg Arg Met Thr Leu Pro Ser Gly Glu Ser Ile Pro Val Leu Gly
 29 1 5 10 15
 31 Gln Gly Thr Trp Gly Trp Gly Glu Asp Pro Gly Arg Arg Gly Asp Glu
 32 20 25 30
 34 Val Ala Ala Leu His Ala Gly Leu Glu Leu Gly Met Thr Leu Val Asp
 35 35 40 45
 37 Thr Ala Glu Met Tyr Ala Asp Gly Gly Ala Glu Glu Val Ala Gly Glu
 38 50 55 60
 40 Ala Leu Ala Gly Arg Arg Asp Glu Ala Phe Val Val Ser Lys Val Met
 41 65 70 75 80
 43 Pro Ser His Ala Ser Arg Ser Gly Thr Ile Ala Ala Cys Glu Arg Ser
 44 85 90 95
 46 Leu Lys Arg Leu Gly Thr Asp Arg Ile Asp Leu Tyr Leu Leu His Trp
 47 100 105 110
 49 Gln Gly Arg Tyr Pro Leu Gln Asp Thr Val Ala Ala Phe His Gln Leu
 50 115 120 125
 52 Val Glu Asp Glu Lys Ile Arg Tyr Trp Gly Val Ser Asn Phe Asp His
 53 130 135 140
 55 Asp Val Leu Ala Glu Leu Gln Asp Val Pro Gly Thr Ser Gly Leu Thr
 56 145 150 155 160
 58 Thr Asp Gln Val Leu Tyr Asn Leu Ser Arg Arg Gly Pro Glu Tyr Asp
 59 165 170 175
 61 Leu Leu Pro Trp Cys Ala Asp His Gln Leu Pro Val Met Ala Tyr Ser
 62 180 185 190
 64 Pro Ile Glu Gln Gly Arg Ile Leu Asp Asp Thr Thr Leu Asn Asp Val
 65 195 200 205

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67 Ala Ala Arg His Ser Val Ser Pro Ala Ala Ala Ala Leu Ala Trp Val
 68 210 215 220
 70 Leu Arg Arg Asp Ser Leu Cys Thr Ile Pro Lys Ala Ser Ser Pro Gln
 71 225 230 235 240
 73 His Val Arg Asp Asn Ala Thr Ala Leu Asp Val Glu Leu Thr Arg Glu
 74 245 250 255
 76 Asp Leu Asp Ala Leu Asp Arg Ala Phe Pro Pro Pro Ser Gly Pro Arg
 77 260 265 270
 79 Pro Leu Glu Met Leu
 80 275
 83 <210> SEQ ID NO: 2
 84 <211> LENGTH: 1410
 85 <212> TYPE: DNA
 86 <213> ORGANISM: Micrococcus luteus
 88 <220> FEATURE:
 89 <221> NAME/KEY: CDS
 90 <222> LOCATION: (108)..(938)
 92 <400> SEQUENCE: 2
 93 ggtaccegcccgcctctat aagccagcac cggtcgagga cgcgcggcc cttcgaggat 60
 95 ctcaqccccac gtccegeetc aggacaacca gaaggaagtg atcgcgg atg cga cgg 116
 96 Met Arg Arg
 97 1
 98 atg acg ctg ccg atg ddd ddd ttt atc cct atg gac ccc ggg aac 164
 100 Met Thr Leu Pro Ser Gly Glu Ser Ile Pro Val Leu Gly Gln Gly Thr
 101 5 10 15
 103 tgg ggc tgg ggt gag gac ccc ggc cgc cgc ggc gac gag gtc gcc gcg 212
 104 Trp Gly Trp Gly Glu Asp Pro Gly Arg Arg Gly Asp Glu Val Ala Ala
 105 20 25 30 35
 107 ctg cac gcc ggc ctc gag ctg ggc atg acg ctg gtc gac acc gcc gag 260
 108 Leu His Ala Gly Leu Glu Leu Gly Met Thr Leu Val Asp Thr Ala Glu
 109 40 45 50
 111 atg tac gcc gac ggc ggt gcg gag gag gtg gct ggt gaa gca ttg gcg 308
 112 Met Tyr Ala Asp Gly Gly Ala Glu Val Ala Gly Glu Ala Leu Ala
 113 55 60 65
 115 tgt cgc cgc gac qaq qcq ttc gtq gtc aqg aag gtc atg cgg tcc ccc 356
 116 Gly Arg Arg Asp Glu Ala Phe Val Val Ser Lys Val Met Pro Ser His
 117 70 75 80
 119 gcc tcc cgt tcc qcc acg atc qcc qcc tcc gaa cgc agc ctg aaa cgc 404
 120 Ala Ser Arg Ser Gly Thr Ile Ala Ala Cys Glu Arg Ser Leu Lys Arg
 121 85 90 95
 123 ctc qcc acc cat ccc atc gac ctc tac ctc ctc ccc tcc ca: tgc aqg 452
 124 Leu Gly Thr Asp Arg Ile Asp Leu Tyr Leu Leu His Trp Gln Gly Arg
 125 100 105 110 115
 127 tcc ccc tcc tcc qcc gac atc qcc gcc tcc ccc ccc ccc qcc qcc qcc 500
 128 Tyr Pro Leu Gln Asp Thr Val Ala Ala Phe His Gln Leu Val Asp
 129 120 125 130
 131 qdd aaa atc cca tac tcc qcc qcc gtc aqg aac ttc gac ccc ccc aac atc 546
 132 Gly Lys Ile Arg Tyr Trp Gly Val Ser Asn Phe Asp His Arg Ala Leu
 133 135 140 145

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135	gcc	gag	ctq	caq	gac	qtg	ccq	ggc	acc	aga	ggg	ctg	acc	acq	gat	cag		596
136	Ala	Glu	Leu	Gln	Asp	Val	Pro	Gly	Thr	Ser	Gly	Leu	Thr	Ihr	Asp	Gln		
137	150						155					160						
139	gtg	ctg	tac	aac	ctg	tcg	ccg	cga	gga	ccg	gag	tac	qac	ctg	ctg	ccg		644
140	Val	Leu	Tyr	Asn	Leu	Ser	Arg	Arg	Gly	Pro	Glu	Tyr	Asp	Leu	Leu	Pro		
141	165						170					175						
143	tgg	tgc	gcc	gac	cac	cag	ctg	ccg	gtc	atg	gcy	tac	tcg	ccg	atc	gag		692
144	Trp	Cys	Ala	Asp	His	Gln	Leu	Pro	Val	Met	Ala	Tyr	Ser	Pro	Ile	Glu		
145	180						185				190				195			
147	cag	ggc	cqc	atc	ctt	gac	gac	acg	atg	aac	gac	qtc	gcy	gcc	cgt		740	
148	Gln	Gly	Arg	Ile	Leu	Asp	Asp	Thr	Thr	Leu	Asn	Asp	Val	Ala	Ala	Arg		
149	200						205					210						
151	cac	aga	gtc	agc	ccc	gcy	gcy	gcy	gcc	ctt	gcc	tgg	gtg	ctg	cgc	cgc		788
152	His	Ser	Val	Ser	Pro	Ala	Ala	Ala	Ala	Leu	Ala	Trp	Val	Leu	Arg	Arg		
153	215						220					225						
155	gac	tgc	ctc	tgc	acg	atc	ccc	aag	gcy	agc	agc	ccg	cag	cac	gtg	cgc		836
156	Asp	Ser	Leu	Cys	Thr	Ile	Pro	Lys	Ala	Ser	Ser	Pro	Gln	His	Val	Arg		
157	230						235					240						
159	gac	aae	gcy	aca	gca	ctg	gac	gtg	gag	ctg	acc	cqc	gaa	gac	ctg	qat		884
160	Asp	Asn	Ala	Thr	Ala	Leu	Asp	Val	Glu	Leu	Thr	Arg	Glu	Asp	Leu	Asp		
161	245						250					255						
163	gtt	ctg	gac	cgt	ttt	ccg	ccc	ccg	agg	ggc	ccg	ccg	cca	ctg	qaa		932	
164	Ala	Leu	Asp	Arg	Ala	Phe	Pro	Pro	Pro	Ser	Gly	Pro	Arg	Pro	Leu	Glu		
165	260						265				270				275			
167	atg	ctg	tgaccctgcc	ccagggcgca	gcceggcgtgg	tcggggcggt	ccqqqcaqtc										988	
168	Met	Leu																
170	ccggcagcgc	tcgggtcgc	gcaagtctcc	gaaggacctg	cctgtcacct	cctcctgaac											1048	
172	ctgtgcacqc	catccatcga	ctcccttcct	cgccccctgt	cggttgcgc	gttaggcgtg											1108	
174	atccatccgct	ggcagggtccc	ccaagtggcc	tcgagccggg	ccctctgtgtt	gtcggtgagc											1168	
176	accctgggttc	cggggtgcag	gttgcacgg	gccccgttgcgg	ccgggttcgc	cgtgcggccg											1228	
178	ccgttggccat	gcagggtctg	ctggaccctgg	cggttgcgc	ggaccacgc	gtcgccggct											1288	
180	accctggactg	cgagcgcacgg	ccgttgcgttgc	ccgacacgc	ctggacactg	ggccgtgcgg											1348	
182	tcaggaggat	ctccaaaagtc	ggccggccgggg	gttcaggcga	tgtcgaggaa	ggaacggagc											1408	
184	tc																1410	

187 <210> SEQ ID NO: 3

188 <211> LENGTH: 20

189 <212> TYPE: DNA

190 <213> ORGANISM: Artificial Sequence

192 <220> FEATURE

193 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer

195 <220> FEATURE

196 <221> NAME/KEY: modified_base

197 <222> LOCATION: (6)

198 <223> OTHER INFORMATION: a, t, c, g, other or unknown

200 <220> FEATURE

201 <221> NAME/KEY: modified_base

202 <222> LOCATION: (9)

203 <223> OTHER INFORMATION: a, t, c, g, other or unknown

205 <400> SEQUENCE: 3

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Input Set : A:\25835104.app
Output Set: N:\CRF4\10232002\J088920.raw

W--> 206 gayacngcng aratgtaygc	20
209 <210> SEQ ID NO: 4	
210 <211> LENGTH: 20	
211 <212> TYPE: DNA	
212 <213> ORGANISM: Artificial Sequence	
214 <220> FEATURE:	
215 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer	
217 <220> FEATURE:	
218 <221> NAME/KEY: modified_base	
219 <222> LOCATION: (6)	
220 <223> OTHER INFORMATION: a, t, c, g, other or unknown	
222 <220> FEATURE:	
223 <221> NAME/KEY: modified_base	n found at position 9
224 <222> LOCATION: (6)	
225 <223> OTHER INFORMATION: a, t, c, g, other or unknown	
227 <400> SEQUENCE: 4	
W--> 228 tcyclcnacna gytgrtgaa	20
231 <210> SEQ ID NO: 5	
232 <211> LENGTH: 26	
233 <212> TYPE: DNA	
234 <213> ORGANISM: Artificial Sequence	
236 <220> FEATURE:	
237 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer	
239 <400> SEQUENCE: 5	
240 <210> SEQ ID NO: 6	26
244 <211> LENGTH: 32	
245 <212> TYPE: DNA	
246 <213> ORGANISM: Artificial Sequence	
248 <220> FEATURE:	
249 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer	
251 <400> SEQUENCE: 6	
252 <210> SEQ ID NO: 7	32
256 <211> LENGTH: 46	
257 <212> TYPE: DNA	
258 <213> ORGANISM: Artificial Sequence	
260 <220> FEATURE:	
261 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer	
263 <400> SEQUENCE: 7	
264 <210> SEQ ID NO: 8	47
268 <211> LENGTH: 29	
269 <212> TYPE: DNA	
270 <213> ORGANISM: Artificial Sequence	
273 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer	
275 <400> SEQUENCE: 8	
276 <210> SEQ ID NO: 9	29
277 <211> LENGTH: 29	
278 <212> TYPE: DNA	
279 <213> ORGANISM: Artificial Sequence	
280 <220> FEATURE:	
281 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer	
283 <400> SEQUENCE: 9	

RAW SEQUENCE LISTING

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Input Set : A:\25835104.app

Output Set: N:\CRF4\10232002\J088920.raw

279 <210> SEQ ID NO: 9
280 <211> LENGTH: 144
281 <212> TYPE: DNA
282 <213> ORGANISM: Artificial Sequence
284 <220> FEATURE:
285 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
286 double-stranded DNA
288 <400> SEQUENCE: 9
289 gaaatcttaag gagatttaca tatqcqtqgt atqactttac catctggtga atctattcca 60
290 qtttttaggtc aaggtaacttg gggttggggt gaagatccag gtctcggtgg tcatgtaaagt 120
291 qctqctttiac atgtcqqtct cgag 144
294 <210> SEQ ID NO: 10
295 <211> LENGTH: 33
296 <212> TYPE: DNA
297 <213> ORGANISM: Artificial Sequence
299 <220> FEATURE:
300 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
302 <400> SEQUENCE: 10
303 caggagctt aaggaggta acaatgtata aag 33
306 <210> SEQ ID NO: 11
307 <211> LENGTH: 28
308 <212> TYPE: DNA
309 <213> ORGANISM: Artificial Sequence
311 <220> FEATURE:
312 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
314 <400> SEQUENCE: 11
315 cacggatcct tatccgcgtc ctgcttgg 28

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/088,920

DATE: 10/23/2002
TIME: 16:11:56

Input Set : A:\25835104.app
Output Set: N:\CRF4\10232002\J088920.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:3; N Pos. 6,9
Seq#:4; N Pos. 6,9

VERIFICATION SUMMARY

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Input Set : A:\25835104.app

Output Set: N:\CRF4\10232002\J088920.raw

L:206 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0

L:228 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0



RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/088,920
Source: PCT/0
Date Processed by STIC: 10/23/02

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FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

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PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

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Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

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Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202
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Revised 01-29-2002